

Fire Burn Intensity Classification

Fire Burn Intensity The following burn intensity classifications can be used to estimate soil heating by vegetative and physical conditions. Fire burn intensity is very useful in preparing rehabilitation plans and planning other post fire activities. To determine hydrophobicity scrape ash away and pour water on the soil surface. Hydrophobic soils will cause water to bead at the surface for several minutes. Root damage can be determined by digging down and carefully examines the extent of root burning.

Low Fire Intensity **Indicators:** Duff and debris partly burned, soil normal color, hydrophobicity low to absent, standing trees may have some brown needles.

Interpretation: Root crowns and surface roots will resprout quickly (within 1 year); infiltration and erosion potential not significantly changed.

Type III: Category type; primarily rangeland; no sediment delivery; natural recovery.

Medium Fire Intensity **Indicators:** Duff consumed, burned needles still evident; ash generally dark colored; hydrophobicity low to medium on surface soil up to 1" deep; soil brown to reddish brown up to 2" of soil darkened from burning (below duff or ash layer); roots viable below 1", shrub stumps and small fuels charred but still present; standing trees blackened but not charcoal.

Interpretations: Root crowns will usually resprout; roots and rhizomes below 1" will resprout; most perennial grasses will resprout; vegetative recovery is rapid (1-5 years); soil erosion potential will increase due to the lack of ground cover and moderate hydrophobicity.

Type II: Category type; steep lightly timbered slopes with grass; some sediment delivery.

High Fire Intensity **Indicators:** Duff consumed, uniformly gray or white ash (in severe cases ash is thin and white or light); no shrub stumps or small fuels remain; hydrophobicity medium to high -up to 2" deep; 2-4" of soil is darkened (soil color often reddish orange), roots burned or hard 2 -4'; soil may be physically affected (crusting, crystallization, agglomeration). Standing trees can be charcoal to 0.5 to 1" deep.

Interpretations: Soil productivity is significantly reduced; some roots and rhizomes will resprout, but only those deep in soil; revegetation is set back (5-10 years); soil erosion potential can be significantly increased

Type I: Category type; steep timbered north slopes; dense forest canopy; unprotected drainage; sediment delivery; natural recovery severely limited.

